

**10 CSR 10-5.520 Control of Volatile Organic Compound Emissions  
From Existing Major Sources**

- (1) Applicability. This rule applies to any installation in the counties of St. Charles, St. Louis, Franklin, or Jefferson or the City of St. Louis that have the potential to emit greater than one hundred (100) tons per year of volatile organic compounds. This rule does not apply to any installation that meets one or more of the following:
  - (A) One or more rule under Title 10, Division 10, Chapter 5 of the Code of State Regulations (CSR) applies to volatile organic compound (VOC) emissions from a product process, or a raw material, intermediate or product tank;
  - (B) Is exempted from one or more rule under Title 10, Division 10, Chapter 5 of the CSR as it applies to VOC emissions from a product process, or a raw material, intermediate or product tank; or
  - (C) Is affected by any federal rulemaking promulgated under 40 CFR Part 60, 40 CFR Part 61, or 40 CFR Part 63 applies to VOC emissions from a product process, or a raw material, intermediate or product tank.
- (2) Definitions. Definitions of certain terms specified in this rule may be found in 10 CSR 10-6.020.
- (3) General Provisions.
  - (A) An owner or operator, to which this rule applies, shall provide the department with the following information on or before June 1, 2000:
    1. An identification of each installation including individual emission units to which this rule applies; and
    2. A determination of the total potential to emit and the actual emission of VOCs for the 1998 and 1999 calendar years from each emission unit at the facility. An owner or operator shall use the following hierarchy as a guide in determining the most desirable emission data to report to the department. If data is not available for an emission estimation method or an emission

estimation method is impractical for a source, then the subsequent emission estimation method should be used in its place--

- A. Continuous Emission Monitoring System (CEMS);
  - B. Stack tests;
  - C. Material/mass balance;
  - D. AP-42 (Environmental Protection Agency (EPA) *Compilation of Air Pollution Emission Factors*) or FIRE (Factor Information and Retrieval System);
  - E. Other EPA documents;
  - F. Sound engineering calculations; or
  - G. Facilities shall obtain department pre-approval of emission estimation methods other than those listed in paragraphs (3)(A)2.A.-F. of this rule before using any such method to estimate emissions in the submission of the RACT study.
- (B) The owner or operator of a major VOC emitting facility shall on or before June 1, 2000, provide to the department a written proposal for RACT for each VOC emission unit at the facility. The RACT proposal shall include, at a minimum, the information contained in subsection (3)(F) of this rule.
- (C) The department will make a finding of completeness within thirty (30) calendar days of receiving a RACT proposal. The department will make a determination of approvability within sixty (60) calendar days of the finding of completeness.
- (D) Upon receipt of notice of the department's approval of the RACT proposal, the facility shall begin implementation of the measures necessary to comply with the approved or modified RACT proposal. Implementation of the RACT proposal shall be completed according to

the schedule established in the approved RACT proposal and shall be as expeditious as practicable but no later September 1, 2002.

- (E) Where the installation of a new emission unit, modification or change in operation of an existing emission unit will result in the emission unit or facility meeting the definition of a major VOC emitting facility, the owner and the operator shall jointly submit a RACT proposal to the department that meets the requirements of this section and complete implementation of the RACT proposal as approved or modified by the department prior to the installation, modification or change in operation of the existing emission unit.
- (F) Each RACT proposal shall, at a minimum, include the following information:
  - 1. A list of emission units subject to the RACT requirements;
  - 2. The size or capacity of each affected emission unit and the types of fuel combusted or the types and quantities of materials processed or produced by each emission unit;
  - 3. A physical description of each emission unit and its operating characteristics;
  - 4. Estimates of the potential and actual VOC emissions from each affected emission unit and associated supporting documentation;
  - 5. A RACT analysis which meets the requirements of subsection (3)(A) of this rule, including technical and economic support documentation identified in subsection (3)(G) of this rule for each affected emission unit;
  - 6. A schedule for completing implementation of the RACT proposal as expeditiously as practicable but not later than September 1, 2002, including interim dates for the issuance of purchase orders, start and completion of process technology and

control technology changes and the completion of compliance testing;

7. Testing, monitoring, recordkeeping and reporting procedures proposed to demonstrate compliance with RACT;
8. An application for an operating permit amendment or application to incorporate the provisions of the RACT proposal,

(G) In addition, the RACT analysis required under subsection (3)(F) of this rule shall include:

1. A ranking of the available control options for the affected emission unit in descending order of control effectiveness. Available control options are air pollution control technologies or techniques with a reasonable potential for application to the emission unit. Air pollution control technologies and techniques include the application of production process or methods and control systems for VOCs. The control technologies and techniques shall include existing controls for the source category and technology transfer controls applied to similar source categories;
2. An evaluation of the technical feasibility of the available control options as required by paragraph (3)(G)1. of this rule. The evaluation of technical feasibility shall be based on physical, chemical and engineering principles. If an analysis is determined to be technically infeasible, the technical difficulties which would preclude the successful use of the control options on the affected emission unit shall be identified;
3. A ranking of the technically feasible control options in order of overall control effectiveness for VOC emissions. The list shall present the array of control options and shall include, at a minimum, the following information:

- A. The baseline emissions of VOCs before implementation of each control option;
  - B. The estimated emission reduction potential or the estimated control efficiency of each control option;
  - C. The estimated emissions after the application of each control option; and
  - D. The economic impacts of each control option, including both overall cost effectiveness and incremental cost effectiveness; and
4. An evaluation of cost effectiveness of each control option consistent with "OAQPS Control Cost Manual" (Fourth Edition), EPA 450/3-90-006 January 1990 and subsequent revisions. The evaluation shall be conducted in accordance with the following requirements:
- A. The cost effectiveness shall be evaluated in terms of dollars per ton of VOC emission reduction;
  - B. The cost effectiveness shall be calculated on average and incremental bases for each option. Average cost effectiveness is calculated as the annualized cost of the control option divided by the baseline emissions rate minus the control option emission rate, as shown by the following formula:

Cost Effectiveness Equation

$$\text{Average Cost Effectiveness (\$/ton VOC removed)} = \frac{\text{Total annualized cost of the control option (\$/yr)}}{\text{Baseline emission rate (tons/yr)} - \text{Control option emission rate (tons/yr)}}$$

- C. For purposes of this paragraph, baseline emission rate represents the maximum emissions before the implementation of the control option. The baseline emissions rate shall be established using either test

results or approved emission factors and historical operating data; and

- D. For purposes of this paragraph, the incremental cost effectiveness calculation compares the costs and emission level of a control option to those of the next most stringent option, as shown by the following formula:

Incremental Cost Equation

$$\begin{aligned} &\text{Incremental Cost per incremental ton removed (\$/ton)} = \\ &\frac{\text{Total annualized cost for a control option (\$/yr)} - \text{Total} \\ &\text{annualized cost for the next most stringent control option (\$/yr)}}{\text{The emission rate for the more stringent control option} \\ &\quad (\text{tons/yr}) - \\ &\quad \text{The emission rate for the control option (tons/yr)}} \end{aligned}$$

- (H) The following emission units are exempted and do not require evaluation in the RACT study:

- (1) Any emission unit that is used to combust fuel;  
and
- (2) Any emission unit with actual VOC emissions less than four (4) tons per year during each calendar year from 1995 through present unless such emission unit can be aggregated with like, same three (3) digit source classification code, emission units with the total having greater than eight (8) tons of VOC per year in any one calendar year from 1995 through present.

- (I) The owner or operator shall submit additional information requested by the department that is necessary for the evaluation of the RACT proposal. Such information shall be submitted within thirty (30) days after the submitter's receipt of the department's request, or such later date as is mutually agreed.

(4) Reporting and Record Keeping.

- (A) An owner or operator must follow the RACT plan requirements outlined in paragraph (3)(F)7. of this rule.
- (B) The department may make additional monitoring, reporting, or recordkeeping requirements as deemed necessary.
- (C) Documentation supporting RACT proposals and documentation of implementation of an approved or modified RACT proposal must be kept on site for a period of five (5) years and must be made available to the department upon request.

(5) Test Methods. - [*Not Applicable*]

EPA Rulemakings

Description:	This new rule establishes a requirement for major facilities that are not regulated by current category specific RACT regulations to conduct a RACT study and implement the controls defined by the study in the St. Louis nonattainment area.
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### Difference Between the State and EPA-Approved Regulation

None.